



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,218	07/31/2003	Ricardo Espinoza-Ibarra	200207094-1	2085

22879 7590 08/02/2007
HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

PHAM, THOMAS K

ART UNIT	PAPER NUMBER
----------	--------------

2121

MAIL DATE	DELIVERY MODE
-----------	---------------

08/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/632,218

Applicant(s)

ESPINOZA-IBARRA ET AL.

Examiner

Thomas K. Pham

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

First Action on the Merits

1. Claims 1-37 of U.S. Application 10/632,218 filed on 07/31/2003 are presented for examination.

Quotations of U.S. Code Title 35

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The claims and only the claims form the metes and bounds of the invention. “Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ541, 550-551 (CCPA 1969)” (MPEP p2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 01/28/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

5. Claims 1-37 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,487,463 ("Stepp").

Regarding claim 1

Stepp teaches *"an electronic system comprising: a plurality of heat dissipating components"* see FIG. 3, components 302-312 heat dissipating in plurality of regions, *"each component having an independently controllable cooling fan operatively connected thereto"* see FIG. 3 and col. 6 lines 1-13, each of the components 302-312 include a cooling fan; *"and a fan manager communicating with each component to determine an operating parameter of each component and generating control signals to independently control each cooling fan based on the determined operating parameter for each component"* see col. 6 lines 14-33, controller 320 collecting temperature parameters from each of the components 302-312 to take appropriate action.

Regarding claim 16

Stepp teaches *"a method of cooling heat dissipating components in an electronic system having a plurality of heat dissipating components"* see FIG. 3, components 302-312 heat dissipating in plurality of regions, *"a cooling fan operatively connected to each heat dissipating component"*

see col. 6 lines 1-13, and *“a fan manager, comprising: determining by the fan manager an operating parameter of each heat dissipating component”* see col. 6 lines 14-22; and *“generating by the fan manager of control signals to independently control each cooling fan based on the operating parameter of the heat dissipating component that is operatively connected to that fan”* see col. 6 lines 22-48, controller 320 collecting temperature parameters from each of the components 302-312 to take appropriate action.

Regarding claim 31

Stepp teaches *“a fan manager for cooling heat dissipating components in an electronic system having a plurality of heat dissipating components and a cooling fan operatively connected to each heat dissipating component”* see FIG. 3, components 302-312 heat dissipating in plurality of regions, *“comprising: a determinator communicating with each heat dissipating component to determine an operating parameter of each heat dissipating component”* see col. 5 lines 56-67; *“a controller generating control signals to independently control each cooling fan based on the determined operating parameter of the component operatively connected to that fan”* see col. 6 lines 22-48, controller 320 collecting temperature parameters from each of the components 302-312 to take appropriate action.

Regarding claim 32

Stepp teaches *“a fan system for cooling a heat dissipating component within an electronic system, comprising: a fan controllable to a desired operating speed and operatively connected to the heat dissipating component”* see FIG. 3, components 302-312 heat dissipating in plurality of regions; and *“a fan manager determining an operating parameter indicative of the heat dissipated by the heat dissipating component”* see col. 5 lines 56-67, *“calculating a control*

Art Unit: 2121

signal indicative of the desired speed of the fan based upon the value of the operating parameter, and communicating the control signal to the fan to control its speed” see col. 6 lines 22-48, controller 320 collecting temperature parameters from each of the components 302-312 to take appropriate action.

Regarding claims 2 and 17

Bistline teaches “*wherein at least one cooling fan is controlled to have a different speed than at least one other cooling fan*” see col. 6 lines 53-62.

Regarding claims 3, 18 and 33

Bistline teaches “*wherein the fan manager includes a plurality of distributed fan manager elements local to each heat dissipating component and configured to determine an operating parameter that is specific to the respective component*” see col. 6 lines 1-13.

Regarding claims 4, 19 and 34

Bistline teaches “*wherein the heat dissipating components are processors and the operating parameter determined includes at least one selected from the group consisting of the identification of an operating instruction to be processed in the future by the processor and whether an instruction to be processed by the processor is a high power consuming instruction*” see col. 5 lines 45-55.

Regarding claims 5, 20 and 35

Bistline teaches “*wherein determining the operating parameter includes at least one selected from the group consisting of monitoring a system bus to determine instructions to be processed and communicating with a branch prediction unit of a processor*” see col. 6 lines 34-48.

Regarding claims 6, 21 and 36

Bistline teaches “*wherein the fan manager further includes a centralized fan management element in communication with the distributed fan manager elements*” see col. 6 lines 14-33.

Regarding claims 7, 22 and 37

Bistline teaches “*wherein the heat dissipating components are provided on one or more cards within the electronic system and the fan manager is divided among at least two of (a) heat dissipating component level fan managers, (b) a card level fan manager, and (c) a system level fan manager*” see col. 3 line 47 to col. 4 line 11.

Regarding claims 8 and 23

Bistline teaches “*wherein the electronic system includes a plurality of electronic modules and at least one module controller*” see FIG. 1.

Regarding claims 9 and 24

Bistline teaches “*wherein the electronic modules each include module control circuits that communicate with the module controller and the fan manager is implemented in at least one of the module control circuits and the module controller*” see col. 3 lines 32-46.

Regarding claims 10 and 25

Bistline teaches “*wherein the electronic system is a blade system, the electronic modules are blades, the module control circuits are blade control circuits, and the module controller is a blade controller*” see col. 5 lines 45-55.

Regarding claims 11 and 26

Bistline teaches “*wherein a plurality of the heat dissipating components are located on one blade*” see col. 6 lines 1-13.

Art Unit: 2121

Regarding claims 12 and 27

Bistline teaches “*wherein at least one electronic module is a rack mounted server and a plurality of the heat dissipating components are processors located on the rack mounted server*” see col. 5 lines 45-55.

Regarding claims 13 and 28

Bistline teaches “*wherein the operating parameters determined by the fan manager include the operational frequency of a heat dissipating component*” see col. 6 lines 38-48.

Regarding claims 14 and 29

Bistline teaches “*wherein the operating parameters determined by the fan manager include the operating voltage of a heat dissipating component*” see col. 3 lines 20-31.

Regarding claims 15 and 30

Bistline teaches “*wherein the operating parameters determined by the fan manager include the power consumed by a heat dissipating component*” see col. 6 lines 25-33.

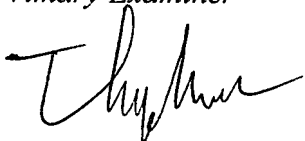
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Friday from 7:30 AM - 4:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450**. Responses may also be faxed to the **official fax number (571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham
Primary Examiner

A handwritten signature in black ink, appearing to read 'Thy Pham', written over the printed name and title.

July 27, 2007